

REMARKS

This is in response to the Office Action dated April 23, 2007. In view of the foregoing amendments and following representations, reconsideration is respectfully requested.

Upon entry of the above amendment, claim 5 will be amended and claims 6-11 will be cancelled. Thus, claim 5 will be the sole pending claim in the present application.

In response to the rejection of claims 5-11 under 35 U.S.C. § 112, second paragraph, claim 5 has been rewritten to include active method limitations. Note that the language "heat history" has not been used in the claim as per the Examiner's suggestion. Accordingly, it is submitted that claim 5, as amended, is now in compliance with the requirements of 35 U.S.C. § 112, second paragraph.

Please note that claim 5 has been amended to include the limitations of claims 6-8, and therefore the amendment to claim 5 should not raise any new issues requiring further consideration and/or search.

Next, on pages 3-7 of the Office Action, claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 3010211 (hereinafter JP '211) in view of JP 54-130451 (hereinafter JP '451). It is submitted that the present invention, as embodied by claim 5, now clearly distinguishes over the applied references for the following reasons.

JP '211 discloses a method of connecting an annex 2 to a main steel plate 1 by angular rotation welding. However, the steel plate is disposed in a horizontal plane and the annex 2 vertically connected to the steel plate (see Fig. 1 of JP '211). This represents a significant difference from the present invention in which an annex plate B is disposed horizontally and is

welded to a vertically disposed plate A. Note that the horizontal annex B is further connected to the vertical plate A by the additional welding (see Figs. 1-2 of the present invention). The additional welding operation is not disclosed or suggested by JP '211. In fact, neither of JP '211 or JP '451 discloses or suggests an additional welding operation.

As described in the present specification at page 10, lines 8-16; in the conventional additional welding method for a horizontal annex connected to a vertical plate, a weld at the lower side, after once being cooled, is repeatedly heated by a weld line passing over an upper side while moving or swinging a weld line back and forth. The alternating cooling and heating of the weld at the lower side, caused by the right and left weaving motion, is a shorter period by approximately 1 second than when welding a final layer of deposited metal using an austenitic metal on an upper side to a lower side of a side face of the workpiece of JP '451. The alternating cooling and heating of the welding member results in weld cracks in a repair weld zone with a welding material having a low transformation temperature when connecting the horizontal annex to the vertical member. The cause of the weld cracks, i.e., the short periodic cooling and heating due to the weaving motion, has not been recognized in the prior art. In particular, JP' 211 and JP '451 do not recognize the cause of the cracking problem.

The present invention, as defined in amended claim 5, is an additional welding operation in a vertical plane and not in a horizontal plane as disclosed in JP '211. The additional welding is performed by arc welding while moving so that a linear weld line is formed, in turn, along an upper side of the horizontal annex, a side face of the horizontal annex downward linearly along the side face, and a lower side of the annex. The claimed additional welding method avoids the

short periodic cooling and heating caused by the weaving motion in the prior art. Clearly, the claimed additional welding method is not disclosed or suggested by the collective teachings of the applied prior art references, i.e. JP '211 or JP 451.

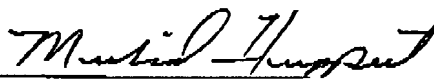
Further, it is noted that JP '378 was applied in a rejection of claims 9-11 to teach a particular shielding gas. However, as indicated above, claims 9-11 have been cancelled thereby rendering the rejection thereof moot.

Finally, please note that in the previous response, an inadvertent error was made in the remarks at page 11, line 16, i.e., " 60° " should have been -- -60° --.

In view of the above, it is submitted that the present application is now clearly in condition for allowance. The Examiner therefore is requested to enter the above amendment and pass this case to issue. In the event that the Examiner has any comments or suggestions of a nature necessary to place this case in condition for allowance, then the Examiner is requested to contact Applicant's undersigned attorney by telephone to promptly resolve any remaining matters.

Respectfully submitted,

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